Creative Problem-Solving Software and Portals

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Abstract

The available research dealing with information technology and creativity has been limited. There is an obvious need to explore this area. Fortunately there is some available software and portals that have undertaken this important topic.

This research starts by discussing the value of information technology as a major input to sustain and maintain a creative working environment. Further this research explores the significance of creativity as a competitive factor. In reviewing the available software, this research talks about the main features of some common creativity software. These include ThoughtPath, as a creative thinking software, and Ideafisher as a major brainstorming. Further, two major and invaluable portals are explored and their main features are pinpointed. These include im-boot.org and Brint.com. Educators and administrators should find this research essential in understanding and applying the practices or creativity in their strategic or tactical planning.

Introduction and Problem Statement

This research explores with the establishment of creative problem solving by using technological advances mostly found in creative software and portals. According to a discussion from the Artificial Intelligence Warehouse titled Computer and Creativity: Debate About a Fundamental Problem to AI, the author stated that there are two types of creativities. The first type is the problem solving creativity technique that solves a problem in a unique and appropriate manner. The second type is the artistic creativity, "which doesn't really solves a physical problem but rather produces something (like a novel or painting) out of nothing that is novel and appealing in an aesthetic sense." This study focuses on the first type of creativity where software and portals contribute to the process of finding a solution.

The Problem Background

Creativity and innovation are prerequisite to the survival in the business world. Companies have responded to economical pressure and increased competition by encouraging innovation and creativity to accomplish any business success (Mauzy, from Managing Personal Creativity). The author added that a study made by U.S. Department of Labor and conducted by Ernst & Young with the Harvard and Wharton business schools, 85% of U.S. businesses were involved in creating innovative programs at their workplace. These programs included management training in how to hold group procedures, guide teams to generate ideas and choose to implement the ones

with potential. Mauzy continued by noting that companies have varying degrees of success in implementing their creativity programs. To help companies accomplish their goal in establishing an innovation program is to encourage individual creativity. Mauzy defined personal creativity as "the ability of an individual to create new, relevant ideas and perspectives."

Purpose of the Study

The purpose of the study is to show the reader that additional inputs of creativity are found in creative software and web portals. In this paper will discuss two major creativity software (ThoughtPath and Ideafisher) and will comment on two major portals (Brint.com and im-boot.org). This study should enhance a knowledge worker's creativity by using triggers found in software and portal. Leadership and management of all levels can use ideas mentioned in this study to plan ahead by investigating existing creative software that might help in brainstorming and meetings, if the problem is not understood or additional ideas are need to a find solution. This study shows the importance of innovation, but we cannot innovate, or add value to any business without finding the creative idea first (managinginnovation.com, Creativity vs. Innovating).

Review of Literature

This section discusses creative problem solving, creative software, and portals.

Creative problem solving

With many management theories and problem-solving techniques, one wonders whether creative problem thinking is a fad that will not last. In support of the continuation of creative problem solving as a lasting technique, a researcher at the North Carolina University at Chapel Hill stated that creative problem solving has been around since the1940s and it is practiced by governmental, commercial and non-profit organizations around the world. In the article, Creative Problem Solving by the Co-Creativity Institute, the author referred to Alex Osborn's attempt to ignite creativity and problem solving to businesses and educational institutions. During the annual meeting for creative problem solving organized by Osborn's Institute in the mid of 1950s, educational and business leaders jointly created a course in creativity and problem solving that was helpful to the general population.

Mitchell and Kowalik (1999) defined the three terms: creative, problem and solving. The authors stated that the term creative could be described as an "idea that has an element of newness or uniqueness, at least to the one who creates the solution, and also has value and relevancy." A problem is "any situation that presents a challenge, an opportunity, or is a concern." The term solving is defined as "devising ways to answer, to meet, or to resolve the problem." Further, the author discussed the Osborn-Parnes problem-solving model. The steps included in the model are:

1. Mess Finding - The objective of this step is to recognize a challenge in a situation
2. Data Finding – This step attempts to find all known facts pertaining to the situation and tries to locate needed information that is not available but critical to solving the problem.
3. Problem Finding – This step should result in finding the most important problem statements.

4. Idea Finding – The objective of this step is to find as many good solutions as possible to the problem statement.
5. Solution Finding - Keeping a list of standards in mind, the objective of this step is to select the best answers for action.
6. Acceptance – After attempting to the find acceptance for the best solution, this step calls for a plan of action that leads to executing a solution.

Creative Software

This section attempts to see whether the software industry has included creativity as input parameter in the development process. Also, this section reviews two commercial creativity software: ThoughtPath and Ideafisher.

Software development is a scientific and artistic process. Programmers have to visualize the end product in their mind. Gu and Tong referenced Robert L. Glass who applied a comparison of two facets of software development, namely creativity and discipline. Glass found that building software is essentially a multifaceted problem-solving process while creativity is an ultimate requirement.

In Shapiro's review of Source Book for Creative Problem Solving: A Fifty Year Digest of Proven Innovation Processes, the writer stated that computer technology could enhance creativity and intuition. To illustrate this idea, the author noted that just like the word processor has allowed people to transport their ideas into the material world, creativity software can assist a person in generating ideas, especially in the early stage of idea formation.

This section will discuss two leading software, ThoughtPath and IdeaFisher. Based on the industry's reviews, these two software have been classified as the best in their category.

ThoughtPath

Thoughtpath.com defined the software as a way of bringing "techniques and processes" to augment a person's creative abilities. Further, the software utilizes 40 years of research in innovation and creativity by the Synectics Company. ThoughtPath has the following features:

1. "Idea generating techniques"
2. Creative problem-solving development capabilities
3. A warehouse to manage a user's concepts and ideas
4. "A creative workout gym" to support mental imaging

The software combines all these methodologies to assist a user through a range of complex problems and opportunities, to find a solution that is "fresh, exciting and workable."

According to MBAware.com who did a full review on this software, there are several benefits to using ThoughtPath. These include its ability to:

1. Help generate solutions to problems in many areas including business process, strategic planning, human resources, marketing, and product development. ThoughtPath can generate innovative solutions by increasing the quality of a user's work.
2. Provide a "Gym" that supports mental imaging, leading to creative thinking.

3. Manage ideas and concepts using a "warehouse" that allows a user to store, classify, explore and share ideas to enhance finding solutions for problems in a later stage.

Ideafisher

According to ideacenter.com, IdeaFisher allows a user to develop, explore and deal with "ideas at a touch of a button." Further IdeaFisher permits creative thinking by providing easy access to a lot of ideas while a user develops a business plan in a very short period of time. Further, Ideacenter.com continues by stating that Ideafisher eradicates creative blocks by providing a user with numerous business ideas. Examples of these ideas are related to marketing, design, writing script and writing in general.

Lloyd(2004) stated that for over 10 years, Marsh Fisher, the developer of the software, spent his time improving and developing the software, most of the time spent on sorting thousands of words organized in hundreds of boxes where each box had its "associative categories." The output is a huge database of concepts with many relationships.

Lloyd also stated that IdeaFisher "creates mental associations starting from a word or a concept." Further, it allows the user to compare two concepts for "common meanings." For example, Lloyd compared the two terms, creativity and computer. In response, Ideafisher generated 53 associations. Some of the association in the list included design, designer, robotic animal, Silicon Valley, to name a few. Interestingly, under the categories "People/Animal," the software listed gremlin and monster. This is an interesting response if we consider the number of images that might cross our mind when combine some of the returned words together.

The last feature Lloyd discussed is QBank. If the user feels lost at the start of a project, the software would provide various lists of questions to assist the user to find direction. The same feature would work well for the middle stage of a project where a user is confused by too many questions. QBank should be able to assist users by narrowing their options.

Academicsuperstore.com maintained that Ideafisher is has the ability to unlock creativity by applying associative thinking. Academicsuperstore.com referred to it as the "world's leading creativity software." Further, "in addition to all of the words and phrases included in Writer's Edge, it includes five modules, providing a database of over 900 idea-provoking questions to help clearly analyze situations, isolate mission critical issues and develop solutions."

Portals

Webopedia.com defined portal as a web site that provides the user with multiple services including email, forums, search capabilities, and even shopping. The first portal was AOL service, however, many of the bigger search engines are classified as portals by expanding their services beyond the scope of searching capabilities to attract more users.

Whatis.techtarget.com defined a portal as a "gateway" that offers a starting point to the users once they are connected to the web. Further, there are two types of portals: general and specialized. Examples of general portals are found in major search engines such as Yahoo, Excite,

CNET, Microsoft Network and AOL.com to name a few. Examples of dedicated portal are Garden.com, Fool.com for investors and SearchNetworking.com to assist network administrators. According to whatis.techtarget.com, additional features are considered typical services accessible by portals including directories, the ability to search for other web sites, news, stock markets, weather, phone, maps, and occasionally a community forum.

A portal can be also found at a smaller scale, e.g., a corporate portal, where a company can utilize the features usually found in a larger portal for its internal informational and communication needs. The web site Intranet.com, a company that builds and maintains intranet suites, a portal is defined as "a private space that gives employees in a company the ability to organize information, readily access that information, manage documents, share calendars and enable efficient collaboration, all in a familiar, browser-based environment." For a portal to support its goal, a measurement of security must be implemented and maintained. This is caused by the nature of intranet as a private network used by a specific business. The corporate portal has shown a promising growth and will continue to do so in the future. According to Dubow stated that the total of corporate portals in the market grew from $4.4 billion in 1998 to more than $14 billion by the year 2002.

The next discussion reviews two web portals: Brint.com and Im-boot.org. These portals can be very important to educators and decision makers alike.

Brint.com

Brint.com's team refers to themselves as the "The Knowledge Creating Company." In their mission, they referred to their portal as "developing leading edge thinking and practice on contemporary business, information, technology and knowledge management issues to facilitate organizational and individual performance, success and fulfillment."

Brint.com is by far the most inclusive portal of its kind. In demonstrating that Brint.com is as a very comprehensive portal, Brint.com cited Fast Company Magazine that stated, if brint.com "doesn't have it, then you probably don't need it." The home page shows all major options available. The web organizer divided the topics into two major sections. These include "generation" and "reference." Each one of these sections is divided into three groups as follows:

1. The "generation" is divided into:
    a. Business Technology Enterprises. Some of the interesting options available are information infrastructure, computer supported cooperative work, groupware, enterprise resource planning, virtual organization, virtual corporation, outsourcing, data management, and data mining, just to name few.
    b. e-Business & E-Commerce Enterprises. Some of the options available are e-Business, eCommerce, electronic business, enterprise application integration · Internet, intranets, extranets, enterprise portals, and enterprise information portals, just to name few.
    c. Knowledge Driven Enterprise Networks. Some of the available options are knowledge management, intellectual capital, learning organizations, organizational learning, systems Thinking, Chaos Theory, knowledge portals, creative innovation, and critical thinking, just to name few.

2. The "Reference" Section is divided into:
    a. Business Disciplines and Business Research. Some of the options available are business research, accounting, advertising, business schools, business writing, commerce, competitive strategy, computers science, statistics, technology, telecommunications, trade, and corporate culture, just to name a few.
    b. Business Administration and Business Systems. Some of the options are business management, data management, information management, innovation management, knowledge management, tax management, marketing management, operations management, production management, quality management, production management, project management, Systems Management and Technology Management.
    c. Information Technologies and Information Systems. Some of the available options are artificial intelligence, computers, computer-aided design, computer-aided instruction, computer-assisted learning, object-oriented design and problem-solving.

Im-Boot.org

Im-Boot.org is an interesting portal based on its goal of creativity. Their first priority is "to stay ahead and to keep track with the development in the creativity and innovation domain." The welcome message on the homepage states "creative people and methods worldwide" followed by "gain advantage by sharing."

The main features available in the portal are divided into four main sections. These include:

1. Method. The idea behind this section is to allow the user to choose a creative or innovative method based on their needs. This section is divided into two main parts.
    a. List of very helpful websites related to creativity and innovation. Im-boot.org refers to this part as the yellow pages of creativity and innovation. Some of the titles mentioned include lateral thinking, multiple intelligence, visual problem solving, and "innoversity" (innovation + diversity), just to name few.
    b. The second list is referred to as the "body of knowledge." Some of the titles listed include strategy and planning, organization and teams, process, tools and methods for design optimization, and modeling and decision support.
2. People. This section of the portal invites the user to examine how we get our innovative ideas by examining what creative people said regarding this issue. It is an interesting section to examine many approaches and methodologies to creativity and innovation in variety of aspects.
3. News. This section provides the user with news concerning creativity and innovation. The reviewed articles are posted on a daily basis. "Articles cover scientific issues, books recommendations, educational trends," and "valuable information sources."
4. Resources. This section answers the question: "Where do I get help?" This section likes the works of creativity trainers, consultants, and many additional and helpful resources.

Im-boot.org is not limited to the above-mentioned resources. It includes many additional services that can be useful to managers, scholars, CEOs, entrepreneurs, and creativity and innovation

trainers by providing them "with the diversity and richness of research findings, best practice, stories and the great experience" of creative and innovative people.

The Importance of the Study

This study will contribute to the literature of creative problem solving, creativity software and specialized portals. The most notable contribution of this study is the exploration of commercial creativity software. The realization that having software might trigger our creativity is an advantage when we deal with thought obstruction. This study assessed two creativity software: ThoughtPath and Ideafisher. Also, this study discussed two portals and the ability to obtain endless amounts of information. Brint.com and im-boot.org can help to educators and managers alike. The wealth of information and knowledge in these portals will be invaluable to the decision-making processes.

Conclusion

There is a great chance of improving our creativity by using some of the existing software and portals. In many cases, our minds are waiting for a simple trigger to unleash their own creativity. Software and specialized portals can help by providing these triggers. The software industries and the ease of access to the World Wide Web can present the required basis for learning and applying the creative process.

Rahph Waldo Emerson was quoted as saying "…in art, the hand can never execute anything higher than the heart can inspire." It is our belief that within the soul of every human being lies the dream to create. Many of us forget that we have choice and the ability to create whatever we can dream. When life's events make our journey a little bit harder and our dreams start to slip away, it doesn't hurt to ask for a trigger for our next creation.

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